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## GENDER-BASED TEXTILE-WEAVING TECHNIQUES OF THE AMHARA IN NORTHERN ETHIOPIA

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**ABSTRACT** In the northern area of Amhara, weavers produce a garment worn by many, made from a pure white, transparent woven material. Many weavers across Africa, including those in northern Ethiopia, are men. They are both full-time and migrant, the latter coming from the countryside during the slack farming season. Moreover, in Bahir Dar, the capital of Amhara, many prisoners weave the textile, in conformance with the division of labor system to receive an income during the terms of their sentences. Therefore, textile weaving in this area is not limited to skilled craftsmen (full-time weavers); even the unskilled such as prisoners and migrants have the opportunity to weave. However, Amhara's textile weaving industry is male-dominated; women are only involved in spinning the cotton thread in preparation for the weaving. This paper focuses on the weaving techniques and features of Amhara's textiles. Additionally, it investigates whether women's involvement in textile weaving can be expanded.

**Key Words:** Northern Ethiopia; Weaving technique; Amhara textile; Transformed tool; Multi-utilization of technique.

### INTRODUCTION

In the northern Ethiopian Region of Amhara, many people earn their living by producing crafts, including potters, blacksmiths, tanners, and weavers. The weavers produce a pure white, thin, transparent cloth commonly woven into culturally significant items of clothing.

Most of the weavers working with cloth in Africa are men.<sup>(1)</sup> Among the Amhara also, weaving is done primarily by the men, while the women spin the weft, the yarn used as the material for their clothes.

My research focuses on the weavers and weaving techniques in Bahir Dar, the capital of the Amhara Region. There are full-time weavers in this area, but farmers from the countryside also act as migrant weavers during the off-season, and prisoners weave clothes during their time in prison. Weaving techniques are developed and utilized in the prison and in the ateliers where the migrant weavers work.

There has been little previous research about the weaving techniques of Amhara. The British ethnologist Roth (1977) gives an overview of the Ethiopian loom. Additionally, the Japanese anthropologist Kawada (1997: 61) considered the structural aspect of the loom and its propagation in Ethiopia and West Africa. So although there is literature available on the outline and form of the loom of Ethiopia, there is, as noted, very little research on the details of the weaving techniques of Amhara.

In this paper, I explore the weaving techniques of Amhara, including the production and processes, the tools, and the postures used. I also investigate whether women's involvement in textile weaving can be expanded from the

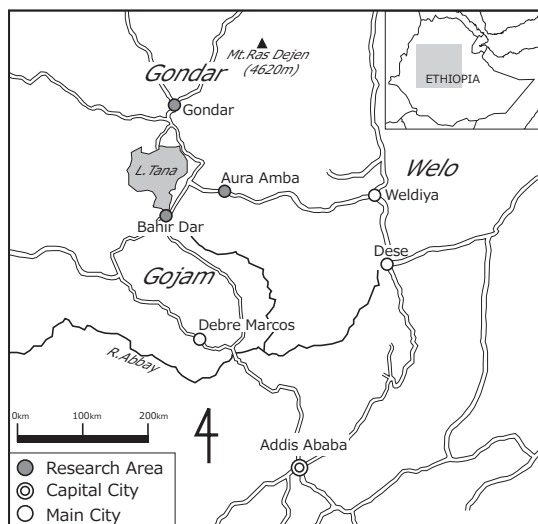
technical side.

Over a period of 12 months, from August 2008 and August 2009 to February 2010, I collected data through participant observation and by listening to accounts of the Amhara people. I also conducted interviews, in Amharic and English (through the local interpreter)<sup>(2)</sup> with 52 full-time weavers, 34 migrant weavers, and approximately 150 prison weavers.

This paper has six sections. First part introduces the area of Bahir Dar, my research area. Secondly, it summarizes the history of the cloth and weavers of northern Ethiopia, including Amhara. And then, I outline the details and meanings of the clothes of Bahir Dar and Amhara, and next, I look at the details of the weaving techniques of Amhara. After that, I discuss the different manufacturing and technical acquisition processes of the different categories of weavers, full-time, migrant, and prisoners. Finally, I summarize the details of weaving in Amhara, focusing on weaving techniques, tools, and postures used.

## THE RESEARCH SITE: BAHIR DAR

Bahir Dar, the capital of the Amhara Region, is located in the northwest part of the Region approximately 580 km from Addis Ababa, the capital of Ethiopia (Fig. 1). The Zeghie peninsula extends into Lake Tana, which originates from the Blue Nile River. On Daga and Dek islands, as well as some smaller islands situated on the lake, there are many churches and monasteries, such as Ura Kidane Mehret, Betre Maryam, and Mertule Maryam. In these churches and monasteries, there are iconic drawings depicting the lives of figures such as Christ and the Virgin Mary. The styles of clothes the Amhara people are depicted wearing in these drawings are still worn today. (The clothing of Amhara is discussed in more detail in the following section.)



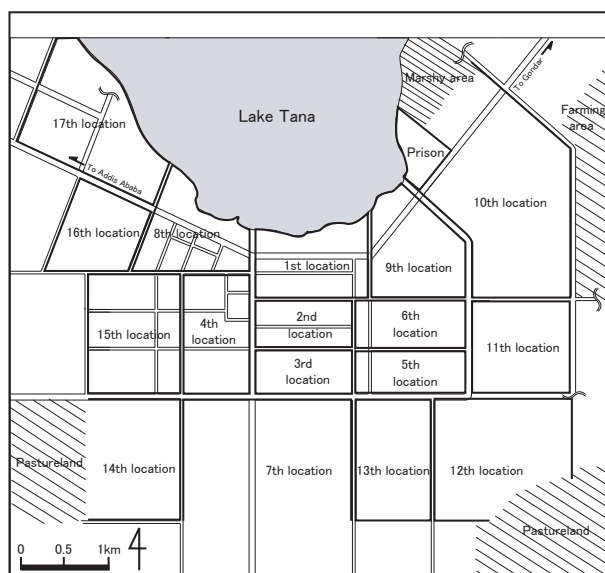
**Fig. 1.** Map of the Amhara Region (the research area).

There is little annual average precipitation—about 400 mm—in Bahir Dar, which is located at an altitude of 1,840 m in the central part of the Abyssinian highland. Bahir Dar is at a lower altitude than other areas in Amhara, and its climate is therefore warm compared with other northern areas; temperatures average highs of 26.3 °C and lows of 10.3 °C. In addition, this area is located at the southernmost tip of Lake Tana, where rainwater gathers from the surrounding area. Bahir Dar benefits from the growing tourism industry around Lake Tana, which provides the area with natural resources and tourist destinations.

Approximately 87% of the population of Bahir Dar is Ethiopian Orthodox; of the remainder, 11% are Muslim and 2% are a mix of Protestant, Catholic, and others. Of these, the Ethiopian Orthodox and the Muslim are the wearers of the garments made from the region's woven textiles. The Ethiopian Orthodox wear the garments for both everyday wear and special occasions, whereas Muslims wear their garments, imported from Saudi Arabia, for occasions such as weddings and funerals among the Amhara people. Moreover, although the religions differ in how men and women present themselves at fasts and on holidays and other occasions, there are no conspicuous differences in presentation in everyday life.

In recent years, Bahir Dar has been classified into a total of 17 administrative locations (Fig. 2), with residents classified according to occupation or religion; many Muslims, for example, live in the 3rd, 4th, 7th, 10th, and 11th locations, and Ethiopian Orthodox live in the other locations.

The 1st to 5th locations constitute the central zone, filled with NGO buildings and hotels. The 6th to 11th locations filled are a mix of residences and farmland. Craftsmen, such as weavers, blacksmiths, and tanners, reside and work in the 10th and 11th locations, and after the 12th location are farmers who raise tef that is the staple food of Amhara, maize, and chat, a local luxury item.



**Fig. 2.** The administrative locations in Bahir Dar.



Research for this study took place in the city of Bahir Dar and the provinces of Gojam, Begemder, and Welo. The cotton used for the local material is primarily grown in the Welo region and sold in the market. Moreover, a cotton tree (*Gossypium arboreum*) native to East Africa is grown in the Gojam and Begemder regions. According to interviews, this tree cotton was previously used to make the local textiles. However, today weavers use the cotton sold in the markets, and the tree cotton is no longer used.

## HISTORICAL BACKGROUND OF AMHARA'S TEXTILE PRODUCTS

The ancestors of the Amhara people immigrated to Ethiopia from Yemen around the 10th century BCE. After this time, voyages across the Indian Ocean were made possible by the annual monsoon winds, and thus the trading range of people in the region was expanded. Trade now existed between the Amhara of northern Ethiopia and people in India, Egypt, and Arabia, as recorded in *The Periplus of the Erythrean Sea* (1st century CE).

In the area from East Africa to Arabia, the principal trade articles were ivory and spices, and handicrafts were also exported from India and Egypt. Textiles accounted for 50% or more of this trade (Kuriyama, 2008: 11). Cotton cloth and garments commonly produced in India were very rare in other areas. Thus, many of these cotton items were brought to East Africa and the Red Sea coast and traded for frankincense and spices (Blanche, 2008: 26).

From the 10th century CE, Ethiopia imported overcoats made from Egyptian flax, cotton cloth from India, and various kinds of textiles and garments, including red-dyed fiber from Oman, silk, and plain white woven cloth made from goat hair. Records also indicate that around the 13th century, Ethiopia traded male and female slaves as well as ivory, Saigon cinnamon, shawls, and turbans (Kuriyama, 2008: 58). In short, then, it can be seen that cloth was already being produced in Ethiopia in the 13th century.<sup>(3)</sup>

In the 16th century, at the start of the Age of Discovery, Europeans also visited Ethiopia and it was documented in travel records of these visits that the Amhara used the local cloth not only for clothing but also as currency for payments, similar to a barter system.<sup>(4)</sup> This observation suggests that cloth from India was imported in large quantities at that time (Beckingham & Huntingford, 1961: 76).

In the early 17th century, Jews were almost the only weavers of cotton. A century later, however, they had been replaced, at least in Gonder, by Muslims (Kaplan, 1992: 100).

In the 19th century and later, the production of textiles has been taken up by the Dorze, who live in southern Ethiopia south of Addis Ababa (Getaneh, 2006: 10). The Dorze weave *Netela*, *Gabi*, and other garments that the Amhara wear also. Moreover, the cloth the Dorze weave features motifs of plants, churches, and other designs woven into both ends of the cloth. This style of weaving has spread throughout Ethiopia, and the weaving styles, techniques, and spinning are the same as those used in Amhara.

## THE CLOTHING OF AMHARA

The people of Amhara wear various garments, collectively called *Tind libs*, including wrap styles such as the *Netela*, the *Kuta*, and the *Gabi*. This section discusses the features of the local clothing of Bahir Dar and the area.

### *Netela*

Cloth in this area is measured in the *Kind*, the distance from the fingertip of a hand to the elbow, approximately 50 cm. The *Netela*, one of the local garments, is a wrap-style garment made from the body scale of 12 *Kind* (approximately 6 m); this measurement is used not only among Amhara but throughout Ethiopia. The word *Netela* itself means “singular” or “thin” in Amharic, highlighting the transparency of the garment, which is made by cutting the full length of 12 *Kind* into two pieces and sewing them together. Stripes (*Tlet*) or a simple geometrical pattern (*Gebgab*) is also woven into the ends of this cloth in widths varying from 2 to 30 cm.

The way to wear the *Netela* differs depending on the religion of the wearer and also on the occasion. The Ethiopian Orthodox wear the *Netela* at church, on public holidays, at weddings and funerals, and also as everyday wear. As well, the method of wrapping the cloth varies depending on the purpose of wear. For example, for church, the cloth is extended oblong and then wrapped around the body (Fig. 3), whereas for funerals, the *Netela* is folded in half horizontally, with a patterned portion fixed to the head and the remainder wrapped around the body (Fig. 4). Muslims wear the *Netela* only at weddings and funerals; for funerals, the *Netela* is opened horizontally and wrapped around the body, and the remaining cloth may be hung from both shoulders (Fig. 5).

The Ethiopian Orthodox use a different wrapping style for funerals. For these occasions, the *Netela* is wrapped to cover the head first, whereas Muslims arrange theirs so that the pattern hangs from the upper to the lower part of the body. In general, the people of Amhara vary hanging their patterns horizontally or vertically depending on the occasion.<sup>(5)</sup>

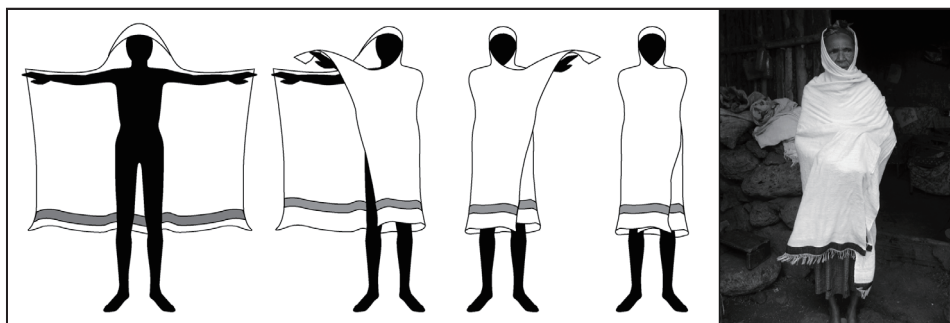


Fig. 3. The way of wearing *Netela* for special occasion, such as wedding and worship service.

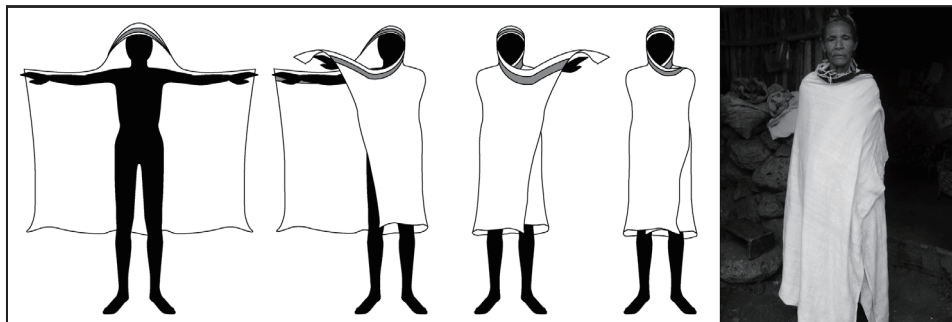


Fig. 4. The way of wearing *Netela* for Ethiopian Orthodox funerals.

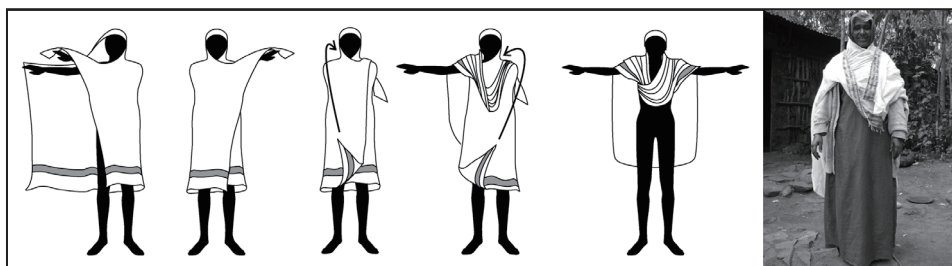


Fig. 5. The way of wearing *Netela* for Muslim funerals.

### *Kuta*

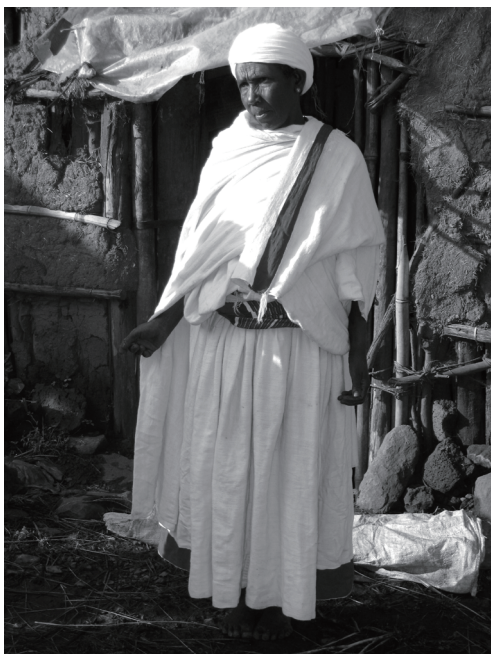
The *Kuta* is the garment that the Ethiopian Orthodox primarily wear. It measures 24 *Kind* (approximately 12 m), twice as long as the *Netela*, and it is sewn together, in a similar manner to that used by the Muslims, into a garment worn by both men and women. The Ethiopian Orthodox wear the *Kuta* in a manner similar to that used for the *Netela*, where it is wrapped oblong around the body and it hangs down from both shoulders. Whereas men wear the *Kuta* as formal wear for funerals or worship services, wives use old *Kuta* as winter clothing for around the house. The plain *Kuta* currently sells in the market, but in recent years, a different type of *Kuta* has been produced and sold that has stripes or a thin width of a geometric pattern woven into both ends. In many cases, the *Kuta* is also called *Gabi*, which is discussed below.

### *Gabi*

The length of the cloth used for the *Gabi* is 50 *Kind* (about 25 m). The cloth for the *Gabi* is cut into 3 m and stacked, and these stacks are sewn together on one side for both men and women. Among the people of Amhara, the *Gabi* is widely worn irrespective of religion. Men wear the *Gabi* as formal wear at funerals, during worship services (Fig. 6), and as everyday wear, and women wear them as winter clothing at home. In addition, at funerals, the *Gabi* is used to wrap the bodies of the dead, and at weddings, the *Gabi* is given as a gift to the groom.



**Fig. 6.** A man wearing a *Gabi*.



**Fig. 7.** A woman wearing the dress which was made from *Jano*.

As mentioned above, it has recently become commonplace to use the terms *Gabi* and *Kuta* interchangeably without distinguishing between the two; the distinction has particularly been lost among those younger than 50. In Bahir Dar, in order to distinguish the *Kuta* from the *Gabi*, the compound word *Hamsa Kind Gabi* (combining the original name of *Gabi* with the amount of cloth, *Hamsa Kind*) is used.

In addition, the patterns woven into *Gabi* change depending on the area. Although solid colors have been the basis for many *Gabi*, there are some in which the stripes or simple geometrical patterns woven into the fabric are the same as those of the *Netela* in Bahir Dar. Moreover, there are also *Gabi* featuring the complicated woven geometrical patterns of the Welo region of Amhara.

When a pattern is woven into both ends of these wrap-type garments, the garment is called by a compound word combining the name of the pattern with the original name of the garment. For example, the *Gabi* woven with stripes of thin width is called a *Tlet Gabi*, combining *Tlet*, the Amharic word for the pattern of thin stripes, and *Gabi*, the original name for the garment. When the original garment is the *Kuta*, the thin-striped garment is called *Tlet Kuta*. Moreover, the *Gabi* and the *Kuta* woven into the pattern of tissue weaving called *Tebab* are called *Tebab Gabi* or *Tebab Kuta*, respectively. The *Jano*, which has thick stripes woven at both ends of the cloth in red cotton thread (*Yddait*) comes from India or Pakistan and is regarded as special garment (Fig. 7); among the people of Amhara, it is worn by both sexes regardless of age for public holidays and prayer.

### *Qemis*

The *Qemis* is formal wear for women regardless of their religion. The cloth for the *Qemis* uses machine-spun cotton thread for warp and hand-spun cotton thread for weft. There is no standard for length or width of this cloth, and the woman orders her cloth from the weaver according to her form and height.

In Bahir Dar, the person who orders the *Qemis* does the sewing, except for the head and an arm part, using two plain pieces of cloth (Fig. 8). To wear the *Qemis*, the woman winds a *Meqenet* (belt of thin width) around the waist and puts on a *Netela* over the *Qemis*. Therefore, it is common to also order a *Netela* at the same time as ordering the *Qemis*.

On the *Qemis* of Bahir Dar, the areas around the collar, the chest, the back, and part of the skirt have embroidery. Moreover, the patterns embroidered on each part of the *Qemis* differ according to religion—the Ethiopian Orthodox use a pattern of the cross and Muslims use a star and crescent pattern. Embroidery of the *Qemis* is done after the garment is sewn.

### *Meqenet*

The *Meqenet* is a piece of cloth used as a belt twisted around the waist on the *Qemis*. The cloth is about 3 m in length, and its width is approximately 70 cm. Once the woman has put on the *Qemis*, the *Meqenet* is folded in half lengthwise and twisted around the *Qemis*, and it connects in the front. Cloth for the *Meqenet* also features the thin stripes and simple geometric patterns.





Fig. 8. Embroidered *Qemis* for Amhara women.

Although the embroidery patterns of the above-mentioned *Qemis* differ by the wearer's religion, those of the *Meqenet* do not differ according to religion. Although some order *Meqenet* from a weaver, today most people purchase them ready-made from the market. The *Meqenet* currently sold in the market are approximately 35 cm in width, half of the full width of each piece of cloth after production. As noted above, the *Meqenet* is worn as a belt with the *Qemis*, and it is considered women's clothing. According to interviews, men in full dress wore an underskirt to knee length, used a piece of cloth the same length as a *Meqenet* (called a *Dig*) as a belt, and wore the *Gabi* on top of everything.

For all of the clothes discussed above, the method of wear is to wrap the cloth around the body.

## THE WEAVING TECHNIQUES OF BAHIR DAR

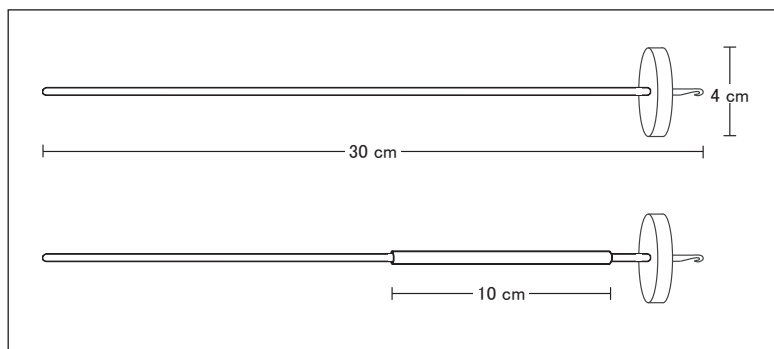
Cloth production in the Bahir Dar area of Amhara follows six processes: spinning the weft thread, warping, starching the warp thread, setting up the loom, test weaving, and weaving the final order. This production process is the same among not only full-time weavers but also migrant weavers and prisoners.



**Fig. 9.** The work of beating cotton.



**Fig. 10.** Amhara woman is spinning a weft (left), and the other woman is winding cotton weft (right).



**Fig. 11.** Spindle (up) and the winding tool with bamboo pipe (down).

### Preparation of Thread (*Dir*)

The material used for cloth production of Ethiopia is primarily cotton, which has been in circulation and cultivation in the region for centuries; it is believed that the Aksum kingdom conquered the Meroe kingdom, a trade center for cotton, and adapted the cotton industry of the Meroe kingdom in approximately the 4th century (Crowfoot, 1911: 13). According to interviews, cotton for fabric was originally harvested from the tree cotton (*Gossypium arboreum*), a species native to East Africa and grown in what are now the Gojam and Begemder regions.

Within the research area for this study, upland cotton (*Gossypium hirsutum*) grown in the Welo region is what is used in the markets today.

Cotton material today is produced in factories in Dese, a city in Welo, or in the capital city of Addis Ababa, and cotton is also sold to measure in village markets.

The work of beating cotton (*Mandaf*) in preparation for spinning it into thread (*Fetl*) is performed primarily by women (Fig. 9). Beating the cotton consists of separating the fibers from the seeds first. Tendons from a cow's leg are twisted together into a thin string and used as a bowstring (*Jimmat*); the bowstring is stretched on hard wooden sticks to make a scutcher (*Degan*), a tool for separating fibers. Cotton fibers are twined little by little around the bowstring, and the twined cotton fiber is loosened by flipping the bowstring against the point portion of a gourd (Fig. 10). The loosed cotton fibers are collected in plastic bags.

Hand-spinning cotton requires a spindle (*Inzrt*) that combines two separate pieces: the first is a bamboo stick (*Ruqekit*) approximately 20 cm long and 0.5 cm thick and the second is a piece of water buffalo horn processed into the shape of a disk (*Qerushu*) (Fig. 11) approximately 4 cm in diameter. The hands are used to spin thread by entwining the thin fibers pulled from the loose cotton around a spindle and rotating it counterclockwise in the air. As the cotton thread (*Mag*) winds around the spindle, it collects into round rolls of thread (*Aqeram*) on a fixed bamboo pipe designed for spool winding (*Menkabkiya*). At one time, hand-spun thread was used for warp and weft thread, but now it is used only for the weft thread. For the majority of *Netela* or *Kuta* sold the markets, industrial cotton thread is used for warp and weft.

### Warping (*Metenten*)

Warping thread entails fixing cotton thread (approximately 15 hanks) onto a bamboo tool (*Qwoshere*) to hank it. The tips of the thread are taken from each hank and twisted into one strand, and the tool is rotated to create the hank.

In Bahir Dar, there are two methods for warping thread. In the first, two sticks for warping (*Denkero*, *Chahel*) and one stick (*Ainet*) for figure are driven into the ground and the hanks are hung between these sticks to create tension (Fig. 12); the process is repeated until the cloth is the desired measurement. In Bahir Dar, it is typical to make 400–420 warps for a piece of cloth of 24 m. However, because the cloth's final measurements are determined by the customer, the number of warps will vary also; some pieces of cloth will require fewer than 400 warps and some





**Fig. 12.** A Man in Bahir Dar is warping thread with two sticks (*Denker, Chahel*) and one stick (*Ainet*).



**Fig. 13.** Using nails driven into two trees for warping thread.



**Fig. 14.** Boiling the warped thread with tef powder.

may require more than 450. When warping is complete, the warp thread hanging on the three sticks is rolled into the shape of a hank and tied at the tip.

The other method of warping thread in Bahir Dar involves driving nails into two trees and hanging warp over the nails (Fig. 13).

#### Starching the Warp Thread (*Menqalya*)

During the warping process, the thread is treated with tef starch to protect it from the tension and friction of weaving work. Typically, either a starch adhesive or a small amount of oil or fat is used to protect the thread (Fig. 14). Tef has a protein with little starch (Sakamoto, 1988), and in this area it is thought that the protein of tef prevents friction during the warping process.

To create the starch, one handful of tef powder is added to 10 L of hot water (80–90°C) and boiled. The warped thread is dipped in the mixture and boiled for approximately one hour. Then excess moisture is pressed out and the thread is laid out to dry in the sun, and the dry warp is tied in the shape of a ball.

I did not observe how this process was completed in areas of Ethiopia outside of Amhara Region, such as in the capital or in southern Ethiopia.

#### Weaving (*Shemene*) and the Features of a Loom (*Ye Shema Iqa*)

The tension of the warp is checked after the thread is placed in the loom. Then, using the surplus warp as weft, the weaver weaves several centimeters to test the weave. Weaving the final piece of cloth begins after the weaver checks and adjusts warp, heddles, and reed.

The loom observed most often in this area is the horizontal fixed-heddle loom that spread widely throughout West Asia, India, and beyond. This loom is equipped with a heddle and reed, the primary components, and threaded with warp thread in a wooden frame.

Looms of this area use a heddle, in which cotton thread is looped through hundreds of parallel rings along two wooden sticks until the threads interconnect to make one piece of cloth.

In Bahir Dar, a horizontal fixed-heddle loom (Roth, 1977: 60; Yoshimoto, 1987: 423–428) is typically used. Traction for this type of heddle comes from either a pulley mechanism<sup>(6)</sup> or a balance mechanism, and the pulley mechanism is more generally used (Yoshimoto, 1987: 427). In Amhara, the heddle with a balance mechanism is used, and it has been reported that the same mechanism is used in Egypt, Yemen, Syria, and Somalia (Loughran et al., 1986: 125; Karkabi, 1991: 76; Yoshimoto & Yanagi, 2006: 157). To create the balance, the sticks of the upper and lower sides of the heddle are bundled together with string, and an upper string is bundled with another stick and fixed in the wooden frame of a loom. A lower string connects to the tip portion of a piece of bamboo or a stick used as pedal. There are also looms that, instead of a pedal, shape a bundle of thread tips into a ring that loops around the big toe.

To beat in weft threads, a reed (*Qep*)<sup>(7)</sup> is used to create a crevice in the parallel threads that allows warp to pass up and down along thinly shaved bamboo



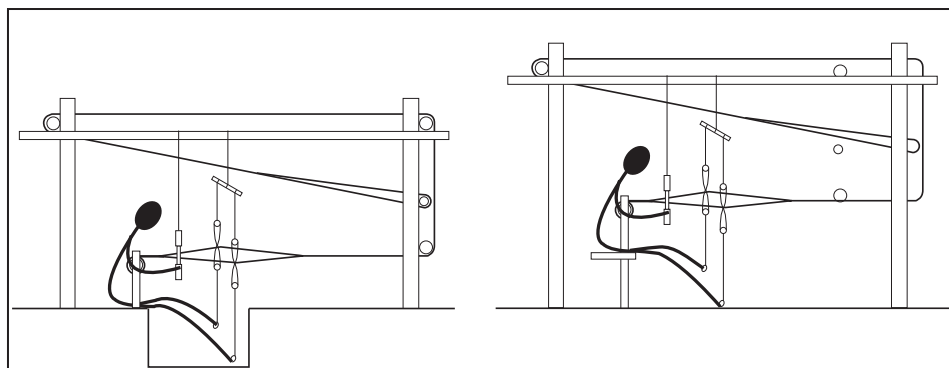
**Fig. 15.** Most reeds sold in Bahir Dar are made in prison.

(approximately 230 sheets) between wooden frames (Fig. 15).

Thread passes each point on the reed in two warps, along the even-numbered and the odd-numbered points. On the point used as the both-ends portion of cloth, it lets every two warp, an even number and an odd number sequence, pass.

The shuttle (*Melwerya*) used in this area for inserting weft thread has the form of a dugout, a shape used in many other areas as well; weft thread wound around bamboo pipes is installed in this shuttle. According to interviews, weavers once made all of these tools themselves. However, many of these tools are now produced by prisoners and sold in markets.

Looms are typically set in one of two positions, either fixed in place in a hole 70–80 cm deep at the weaver's feet or set on a legless chair fixed on the ground (Fig. 16). Although 46 of 52 weavers whom I interviewed in Bahir Dar had their looms set up outside, it is also possible to set looms near the entrance in a house.



**Fig. 16.** The pit treadle loom (left). The horizontal fixed-heddle loom (right).

Interviewees for this study cited a number of reasons for installing their looms outside, including ease of notifying people that looming services were available, ease of communication with customers, and availability of sunlight. In particular, interviewees noted that sunlight could be interrupted during the day, making weaving indoors more difficult.

Once the weaver has woven approximately 30 cm of cloth, a tenter (*Meweteriya*) is stretched to both ends of the cloth in order to keep it a constant width; as weaving progresses, the tenter will be stretched and replaced until the final cloth width is reached. As mentioned previously, the standard length for cloth is approximately 3 m. For this length, the weaver will leave approximately 10 cm unwoven, to allow for cutting the fabric, and then weave to the final length.

### Selling (*Meshet*)

There are two methods for selling cloth. The first method is the custom order: The customer visits a weaver in person, places an order, purchases the necessary amount of thread, and pays a deposit of 50% to secure the order. This is the sales method of full-time weavers. The other sales method is to present ready-woven cloth to brokers who will sell directly to customers; this is the primary method among migrant weavers and prisoners.

In Amhara, the desired thickness of the cloth is determined when the order is placed, with the general preference being for material that is thin cloth like gauze. Cloth with a high density of weft threads will be thick and heavy and will not wear out quickly.<sup>(8)</sup> On the other hand, cloth with a too low density of weft threads will be thin and will tear easily during wear. Therefore, material with moderately dense weft threads is most desirable. In Bahir Dar, one full-time weaver with many customers prepared cloth with weft thread density of 12–14 threads per centimeter, as compared with commercial cloth (including that woven by prisoners and migrant weavers) with 10–17 weft threads per centimeter. A weaver's skill at preparing cloth with moderate thread density determines his reputation.

Historically, the looms currently in use are a recent development; previously, cloth most typically had a plain weave. However, the loom and tools, such as the heddle, reed, and shuttle, are indispensable for making the current style of fabric; without all of these tools, a weaver cannot make successful fabric.

Except for the preparation of the thread, weavers perform all weaving processes themselves. However, the work process for the production of clothing does not require the same consistency, so this work can be conducted by people other than the weaver. As discussed above, aside from the full-time weavers, in Bahir Dar prisoners and farmers migrating from the countryside also weave. The next section describes the production techniques of a full-time weaver, a migrant weaver, and a prisoner.

## WEAVERS IN BAHIR DAR AND THEIR PRODUCTION TECHNIQUES

Full-time Weavers (*Shemane*)

Most of the 50 or so full-time weavers I interviewed for this study were Muslim.<sup>(9)</sup> Among the crafts people I spoke with, Muslims may take up weaving, but they do not engage in other craftwork such as pottery or blacksmithing. This trend holds true in the Begemder and Welo regions as well as in Bahir Dar.

The Muslims who predominately perform weaving work have never owned the large plots of land needed to cultivate crops and farm livestock in Bahir Dar and Gondar. Moreover, interviewees stated that in Amhara in the 1950s, a person who grew up in a family of weavers could not change occupations; many of the weavers I met “inevitably” learned and mastered weaving techniques from their relatives, such as their fathers and grandfathers. Full-time weavers perform all manufacturing processes themselves, including warping, starching the warp thread, and weaving. A customer visits the weaver to place the order directly, supplying the necessary quantity of cotton weft and warp for the items of clothing ordered and paying half of the operating expenses in advance as a deposit. If there is no order or the customer does not return, the weavers cease working; they never continue to weave or prepare cloth using their own funds.

Although there are some facilities where two or more weavers work together in one workplace, a customer negotiates an order of cloth with the individual weaver who will perform the work rather than the master of the workplace. Each weaver in the workplace is not necessarily employed by the master of a workplace, and weavers are individually responsible for manufacturing all of the cloth necessary to complete each order.

Full-time weavers offer technical guidance for individuals learning the craft simply by overseeing all the processes of the weaving operation; there is no oral examination or structured instruction during this period of apprenticeship. Although learning times vary for acquiring weaving techniques, the process typically takes from two weeks to three months.

Weaving requires that one leg be outstretched, and weavers work in the same posture for at least three to four hours. Although I had experience weaving in my country, when I began working in the Bahir Dar area, I was not able to sit in this position for even 30 minutes,<sup>(10)</sup> as this posture seems to place a burden on the waist. However, maintaining the same position over several hours allows the weaver to minimize surface irregularity and maintain consistent texture. More-

**Table 1.** The production wages and the selling price of clothing in November 2009

	The production wages of a cloth	The selling price of a cloth	The cost of materials of a cloth
<i>Netela</i>	6 Birr	27–28 Birr	15 Birr
<i>Kuta</i>	12 Birr	55 Birr	30 Birr
<i>Gabi</i>	22 Birr	110 Birr	60–65 Birr



over, the master weaver observing a new learner considers habituating to this work posture to be critically important.

In order to make a living manufacturing cloth to order, it is necessary for craftsmen to have customers. Thus, to be successful a craftsman must master acquisition of both customers and weaving techniques. In addition, all cloth, whether woven by a skilled weaver or a new craftsman, is sold at the same price; therefore, customers choose a craftsman based on the quality of his work, and it is critical to develop one's weaving skills (Table 1).

### Migrant Weavers (*Werou Shemane*)

Craft workers such as weavers and tanners are concentrated in the 10th and 11th locations of Amhara, distant from the urban area of Bahir Dar. However, there are 21 workplaces in the 7th location that employ migrant weavers who come to the city from other areas. The migrant weavers who work in the workplaces in the 7th location perform only the actual weaving work; the weaver who is the master of the workplace performs all the other processes, including warping and starching the warp thread (Fig. 17). Other weavers do not use hand-spun thread; the master of the workplace will purchase industrial warped and starched cotton thread in the market, and this thread is used to weave the final cloth. The migrant weavers' income is determined by the type and number of articles of clothing they produce, and they are paid every weekend; the master of the workplace sets the wages for each article of clothing, whether *Netela*, *Kuta*, *Gabi*, or *Meqenet*. Because there is no restriction on the number of articles of clothing a weaver can prepare, migrant weavers can work as much as they need to in order to secure sufficient wages. Because of this arrangement, the rate of production of the migrant weavers is three to four times higher than that of the full-time weavers.



Fig. 17. In the workplace, migrant weavers establish their beds on top of the loom.

Most migrant weavers are men from 18 to 45 years old, and they are typically farmers residing in the Begemder region; some migrant weavers are former prisoners who learned and mastered weaving techniques during their incarceration. Weavers can stay at a workplace from two weeks to over half a year, depending on their primary occupations and the needs of their families. For example, the numbers of migrant weavers increase between May and August, the off-season for farmers; most of the migrant weavers who work in agriculture come to Bahir Dar during this time. In addition, the length of stay is also determined by the size of migrant weaver's farmland area and the kinds of agricultural products he produces; a farmer on land that needs a lot of work will not be able to be away from the farm for as long as a farmer who has small property or few crops. Moreover, during periods of increased demand for cloth, many migrant weavers return to their home villages and weave cloth to order directly from customers, going to Bahir Dar between May and August when demand for custom orders is low.

Technical guidance of migrant weavers consists simply of the workplace master's observation and oversight of the migrant weaver; there is no oral examination or structured instruction such as what full-time weavers would receive during their apprenticeships. Migrant weavers will typically be observed for one week or so, after which they take charge and begin weaving full time. There is no hole in the looms the migrant workers use; they place their looms on the legless chair.

Most migrant weavers come to the city during the rainy season. Sales of cloth are slow during this time because there are no important festivals in this season. Therefore, in all of the workplaces of the 7th location, cloth prices and production wages drop by approximately 10% from May to August (Table 2).

One feature of the workplaces of the 7th location is that most do not manufacture *Gabi*. Interviewees made the following points regarding manufacture of the *Gabi*.

The master of one workplace noted that, throughout the year, production of the *Gabi* is low because of the amount of cloth needed; therefore, sales of *Gabi* are low and they generate little income. Another workplace master reported that sales of *Gabi* have increased in his market, so he has been manufacturing them temporarily. However, he also reported that many people order directly their *Gabi* directly from full-time weavers in the 10th or 11th locations.

One migrant worker who was interviewed noted that the *Gabi* uses the same amount of cloth as two *Kuta*; because wages for two *Kuta* are high, it is not worth manufacturing many *Gabi*.

Some of the workplaces of the 7th location are run as independent stores; at

**Table 2.** Changes in cloth production wages

	The production wages from May to August	The production wages from September to April
<i>Netela</i>	5 Birr	6 Birr
<i>Kuta</i>	10 Birr	12 Birr
<i>Gabi</i>	20 Birr	22 Birr
<i>Meqenet</i>	6 Birr	8 Birr

these shops, migrant weavers are assigned to manufacture specific numbers of only *Netela* or only *Kuta*. Shops that run according to this plan can keep a balanced inventory of each article of clothing, and the amount of cloth produced in these workplaces for *Kuta* becomes twice that for *Netela*. Interviewees reported that production wages for these clothing articles were similarly proportional to this: no matter who produces which article, the wage for one article is the same. On the other hand, in workplaces that do not maintain their own inventory, the cloth woven at the shop is collectively sold off to a broker four times per year, and brokers trade with each store in Bahir Dar. Workplaces run in this way tend to manufacture just one type of cloth.

### Prisoners (*Isrenya*)

There is one prison in Amhara that primarily houses prisoners from the Gojam region, in the Bahir Dar suburbs along the boundaries of the 9th and 10th locations. At the time of my investigations, in 2009, there were 1,850 prisoners at this prison (1,801 men, 49 women); sentences ranged from two weeks to life imprisonment. In this facility, the times to wake and to go to sleep are set, and meals are rationed for twice a day, but otherwise prisoners' activities are not restricted. Some prisoners go to the school (the equivalent of secondary school) based at the prison and do woodworking, masonry, and weaving to earn income.<sup>(11)</sup>

Approximately 400 prisoners at this facility engaged in the production of clothes, with the work divided into specialized labor groups. For example, in 2009, 21 prisoners (called the *Metentenami*) arranged the warps; 80 prisoners did the winding work (*Aqerami*); three prisoners prepared the warps to make them strong (*Menqalyami*); and 310 prisoners did the weaving work.

The apprentice craftsman (*redat*) is the one who primarily performs the winding. Many of these men sit at the master weaver's side, observing and learning loom operation and weaving methods for three to six months; as these men learn, they help with the weaving, earning a small income while they master the techniques. In this prison, the owner of the loom is always the one weaving the cloth.

The long probationary period is not required solely for learning and mastering the techniques: A prisoner who wishes to work as a weaver must obtain his tools (heddle, reed, shuttle, etc.) in person,<sup>(12)</sup> and he must pay a fee to a cooperative to rent the setting position for his loom; therefore, a probationary period becomes long because of the amount of time needed to save up the necessary funds. Once an apprentice is able to manufacture cloth, he helps the master and other weavers in an attempt to earn more income. Although the income for winding varies, earnings average 4 Birr 20 cent (approximately 37 yen) per day.

A warping worker goes back and forth between the warping sticks installed at the site, using tools to prepare the number of warp threads necessary for a specific garment's (*Netela*, *Kuta*, *Gabi*, etc.) required width. Clothing produced in prisons is unified to a width of 70 cm; therefore, the total number of warps is also set, at 400 threads per piece of cloth. The warped thread is rolled into the shape of a hank and returned to the weaver. The warp workers typically make a thread of 35 hanks for one *Gabi* at one warping, and earn 1 Birr (about 9 yen in 2009). 15 of the 21



warping workers interviewed had shifted from their apprenticeships to warping thread.

Sentences for the prisoners who warp vary from several weeks to half a year, and warping has become a good position for those who do not have tools or a loom and therefore cannot work as weavers. Warping is also good work for prisoners who are near the end of their sentences, when they will then be able to acquire tools for weaving.

Because the prisoners who do winding and warping are given tools and materials by the weaver, that work expense is used to generate an income. However, in starching work, the worker purchases and prepares all the tef powder and the charcoal used as fuel. Workers in the prison use the same starching method that full-time weavers use.

Although amounts vary depending on the worker's preference, approximately 300 Birr (2,700 yen) is typically enough to buy a month's worth of supplies, an average of 11 kg of tef powder and 30 kg of charcoal. One starching makes enough thread for one *Gabi* in the prison-regulated size, and costs 2 Birr (approximately 20 yen); four starchings in one day will cost 8 Birr (approximately 70 yen). However, starching earns a low income compared with being a weaving apprentice, largely because in recent years inflation has greatly increased the prices for starching materials. Because the pay is low, few workers want to do starching; as of now, three of the workers I interviewed who had been doing starching are performing other work. However, to encourage weavers to take up starching work, the prison uses fuel sales to augment the reduced income from starching work.

Many prison weavers who own a loom weave and collect the clothes produced in the prison and also receive orders directly from outside customers (Fig. 18). They use industrial-duty cotton wefts and warps for the clothing they produce, and, with the exception of the direct orders, they pay the expenses for each



**Fig. 18.** Weaving workshop in Bahir Dar prison.

**Table 3.** Taxes on the prices of each garment manufactured in the prison

	The selling price the prison office defined	Tax of a cloth
<i>Netela</i>	45 Birr	1 Birr
<i>Kuta</i>	85 Birr	3 Birr
<i>Gabi</i>	100 Birr	3 Birr
Cloth of <i>Qemis</i>	85 Birr	3 Birr
<i>Megenet</i>	50 Birr	1 Birr

process, such as winding, warping, and starching, and purchase the materials as well. In addition to using hand-spun wefts that customers bring, the prison weavers may place orders with women prisoners for hand-spun wefts to use in their weaving. The brokers (who are also prisoners) collect the woven clothes and sell them twice a week at the market. The prison sets the selling price for clothes, and a tax is imposed on clothing sales (Table 3).

Of the 150 prisoners I interviewed for this study, 145 reported that they had learned and mastered weaving techniques during the term of a sentence. Of these, 137 reported that they intended to return to their original occupations after serving their sentences, and 13 were farmers who said they wished to work as weavers only during the agricultural off-season. So that many prison weavers have the opportunity to perform weaving work, customers who make repeated purchases at the prison will look for a new weaver for each order.

In 2005, a workplace was established to produce textiles using the new method and to promote weaving instruction in the prison. The workplace has five large looms set with a heddle for plain weaves and two or four heddles for twill weave<sup>(13)</sup> or satin weave;<sup>(14)</sup> these tools are provided by the government; the craftsman who

**Fig. 19.** The large loom with color-coordinated heddle in Bahir Dar prison.

performs technical guidance, and who is also a prisoner, resides at this workplace. 15 prisoners are randomly selected for apprentice training from among the 310 weavers at the prison; these trainees spend three months working in a practice workplace and receiving one-on-one guidance to master various weaving techniques.

At this practice workplace, trainees receive oral instruction in weaving techniques, such as twill or satin weaves using two or more heddles on the loom, while a technical guidance staff person performs the actual work. Heddles are coordinated by color to help trainees keep track of the necessary cloth width or number of warps (Fig. 19). Although the bedcovers, blankets, and winter clothing manufactured in this workplace are sold at the market the same as other clothes, profits from the sale of these items go into the prison weavers union, and the technical guidance worker obtains wages from an association; trainees are not paid for work expenses.

Once a month, 5 of the 15 trainees are dispatched to the clothing workplace in the village of Awra Amba,<sup>(15)</sup> located approximately 60 km northeast of Bahir Dar, and technical guidance in weaving is provided at both workplaces. The workplace at Awra Amba (Fig. 20) is well known by the people of Ethiopia, particularly those in the north; the workshop manufactures and sells garments such as bedcovers and blankets.

Many of the garments manufactured at the prison and at Awra Amba are similar in form, color, material, and weaving techniques. However, the producing location name is printed on garments made in Awra Amba, and it is treated as a recognized brand of cloth among residents of Bahir Dar. Additionally, although the garments produced at both workplaces are sold in the Bahir Dar market, the garments from Awra Amba command prices nearly twice as high as those for the same garments made at the prison.



**Fig. 20.** The cloth manufacturing workplace at Awra Amba.

**Table 4.** Weaving production systems in Bahir Dar

	Spin weft	Wind weft	Warping	Starching the warp	Setting up the loom	Weaving
Fulltime weaver	×	○	○	○	○	○
The atelier of migrant weavers						
Master of atelier	×	○	○	○	○	○
Migrant weaver	×	×	×	×	○	○
The prison of Bahir Dar						
Winding ( <i>Aqerami</i> )	×	○	×	×	○	×
Warping ( <i>Metentenami</i> )	×	×	○	×	×	×
Starching ( <i>Meqalyami</i> )	×	×	×	○	×	×
Weaving ( <i>Shemane</i> )	×	×	×	×	○	○
Women	○	×	×	×	×	×

In summary, full-time weavers perform all work processes themselves, whereas prison weavers and those who weave only during certain periods produce clothing under a division of labor. In all cases, men weave while women spin the weft required for the weaving (Table 4).

## CONCLUSION AND FUTURE DEVELOPMENT

The weaving techniques of this area use various tools for the different processes; the tools are specialized, so a degree of technical proficiency with them is indispensable. In addition, these tools are necessary for the processes regardless of the production system or sales method used and irrespective of whether the worker is a full-time weaver, a migrant weaver, or a prisoner. Moreover, because each work process involved in weaving is standardized, any person can consistently perform any of the necessary tasks except for the actual weaving work. So individual workers can divide the weaving tasks and production is never hindered or stopped.

Weavers in this area use a “plain weave,” a rudimentary style of weaving. Although the plain weave is the easiest technique, it requires constant care during all processes to ensure that the final product looks perfect (Iseki, 2009: 14). In Amhara, the standard measurement for one sheet of cloth ranges from 6 to approximately 25 m. Great skill and experience with the technology are necessary so that each piece is uniform and matches the required standard.

As mentioned above, there are two setting positions for a loom. In one position the loom is fixed in place in a hole, at the weaver’s feet, with a depth of 70–80 cm, and in the other, the loom is set on a legless chair on the ground in front of the weaver. The former is used primarily by full-time weaver, and prison and migrant weavers use the loom mounted on the chair. Weavers using the loom that sits in the ground must sit with their legs outstretched, and it is difficult to alternate

between standing and sitting while weaving in this posture. Full-time weavers who use this type of loom have developed effective postures for maintaining uniform and consistent weaving while sitting for long periods of time in this position. With the recent development of just mounting the loom on a legless chair, it is no longer necessary to learn to maintain the specific posture and technique; weavers now are able to produce cloth at high productivity without learning the special skillful techniques.

In the Wollek area in Gondar, there are women potters who weave during the rainy season, and women in Awra Amba are now also weaving. Although these new weavers use the loom set into a legless chair, I did not gather sufficient data to give detailed consideration to the weaving techniques the women use. For future research, I would like to explore the background of women weavers and the techniques they use, with a focus on how they have incorporated the new tool and how the changed work posture influenced their work style. In particular, I would also like to investigate why weaving has never spread to the women of this region, given that weaving can be done by farmers and prisoners (i.e., it does not have to be done solely by craftsmen).

## NOTES

- (1) Iseki (2000: 263), researching weaving in Africa, reported that the newly mechanized weaving tools are used by men who perform this as their main business; that women took over the old form of weaving once used by men, or did fancier weaving work; and that positions in the formal weaving labor force were reserved for men.
- (2) The informant who cooperated in my research is a 30th-generation adult male who has grown up in Bahir Dar. He had no knowledge of or experience with craft work.
- (3) Some American weaving researchers, including Carroll (1988: 36), have suggested that the loom of Ethiopia is similar in form to looms used in Egypt around the 13th century.
- (4) In the Qaha Iyasus church in Gondar, there is a 17th-century Bible covered in print cloth from India with a red and black vegetable pattern.
- (5) Changing the wear method of one garment for different purposes has spread widely among residents of Amhara, and it is common to hear “To what funeral go,” asked of a woman who is wearing the *Netela* wrapped in the style for funerals.
- (6) One set of heddles connects two sheets via pulley, so that when one heddle is pulled, the other heddle connects and moves in the opposite direction.
- (7) This tool is used for beating in weft thread inserted while forming the opening of the upper and lower edges of the warp, and it is also used to set the density of texture of the piece of cloth.
- (8) Cloth with a high thread density, such as broadcloth, does not hold its shape when it is wound around the body; low thread density material like gauze is suitable for clothes that will hold their shape.
- (9) There is only one Ethiopian Orthodox weaver in Bahir Dar; he is from the Welo region and became a weaver, but he is an exception.
- (10) Many reasons were given for quitting weaving work, including insufficient income, finding different work, contracting lumbago, and the inability to maintain the stiff work posture for long periods of time.



- (11) In the prison in Bahir Dar, prison work is not imposed at all. In addition, there are a shop that sells garments and foods, a coffee shop, and a restaurant in the prison, and prisoners can use all of these freely. These shops are managed by prisoners, and a prisoner with sufficient capital to pay rent and taxes can apply to the office of the prison to run one of these shops.
- (12) Weaving tools can be purchased at the prison for 300 Birr (approximately 2,700 yen).
- (13) The twill weave is easily identified by the visible diagonal lines in the cloth; it is often a simple “over two, under one” weave.
- (14) The surface of satin weave cloth is almost made up entirely of warp or filling floats, because in the repeat of the weave each thread of one system passes, or floats, over (or under) all but one thread of the opposite thread system. The highest thread counts are made with this weave, with the resulting fabric weighing a little more than what can be achieved with plain weaves.
- (15) At the time of my investigations in 2008, approximately 200 villagers resided in this autonomous village, which was built by the present chief in or around the year 1970. Villagers earn income through farming and craft work. Moreover, in this village women manage what was originally men’s work, and men perform women’s work. The villagers of Awra Amba follow a religion that is neither Christianity nor Islam. Because of these distinguishing features, the media has in recent years developed an interest in the village, and many domestic tourists are now visiting.

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